

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. A microfabricated Apparatus apparatus for introducing a substance into an object comprising:  
a first microfabricated channel through which an object in a first fluid passes or flows to a position where it is permeated;  
means for introducing the substance into the object;  
~~and~~ means for causing permeability of the wall of the object so as to permit said substance to enter said object;  
the means for causing a permeability includes at least first and second one electrode~~electrodes~~, dimensioned and arranged to permeate in the wall of the object upon application of a voltage pulse, ~~characterised~~ characterized in that the channel is so sized and dimensioned such that ~~application of a~~ the voltage pulse is applied across one individual object when the object is in the position where it is permeated~~automatic when the object is in a desired position to be permeated~~.
2. The apparatus Apparatus according to claim 1, wherein ~~a channel is provided through which an object passes or flows to a position where it is permeated~~, the channel is of the order of 50  $\mu\text{m}$ , ~~more preferably the channel is less than 30  $\mu\text{m}$  and most preferably the channel less than 4 times the diameter of the object~~.

Claims 3- 13 (Cancelled)

14. (New): The apparatus according to claim 1 or 2, wherein the channel is narrower than the diameter of the object such that the object contacts the walls of the channel at the position where it is permeated.
15. (New): The apparatus according to claim 1, in which the voltage pulse is automatic when the object is in the position where it is permeated.
16. (New): The apparatus according to claim 1, having a pump for urging objects into a location at which a voltage is applied
17. (New): The apparatus according to claim 1, in which the substance is present in the first fluid.
18. (New) The apparatus according to claim 1 further comprising means for supplying the substance, said means comprising a second channel, the second channel in fluid communication with the first channel, and through which the substance in a second fluid passes or flows into the first channel.
19. (New) The apparatus according to claim 18 comprising means for controlling the passage or flow of the substance into the first channel, the substance passing or flowing into the first channel only when the object is present.
20. (New): The apparatus according to claims 17 or 18 having a pump for driving the supply of the substance.
21. (New): The apparatus according to claim 1 wherein the means is provided to restrain or locate an object in a desired position.

22. (New): The apparatus according to claim 21, in which the means to retrain or locate is a well-like structure at a locus in the first channel.
23. (New): The apparatus according to claims 21 or 22, in which the object is restrained or located in contact with the first and second electrodes.
24. (New): Apparatus according to claim 1, having a proximity detector arranged to trigger a voltage pulse when an object is correctly located.
25. (New): Apparatus according to claim 1, formed on a semiconductor substrate.
26. (New): Apparatus according to claim 25, wherein the semiconductor substrate includes silicon.
27. (New): Apparatus according to claim 1, wherein the semiconductor substrate includes silicon and wherein the means for introducing the substance into the object includes a syringe.
28. (New): Apparatus according to claim 1, including means for determining the state or condition of the object following introduction of the substance.
29. (New): Apparatus according to claim 28, wherein the semiconductor substrate includes silicon and wherein the means for determining the state or condition of an object includes an optical sensor and an intra-red source.
30. (New): Apparatus according to claim 1, including sorting mean arranges to direct transfected objects to a first repository and non-transfected objects to a second repository.

31. (New): A plurality of apparatus, according to claim 1, arranged in an array.
32. (New): A method of introducing a substance into an object comprising the steps of passing or flowing an object in a first fluid through a microfabricated channel to a position where the object is permeated, causing the wall of the object to become permeable so as to permit the substance to enter said object, and urging the substance and object towards one another so that the substance enters the object, characterized in that the object is made permeable by subjecting it to a voltage pulse, the voltage pulse being applied across one individual object when the object is in the position where it is permeated.
33. (New): The method according to claim 32, in which the voltage pulse is applied automatically when the object is in a desired position to be permeated.
34. (New): The apparatus of claim 1, wherein the channel is less than 30  $\mu\text{m}$ .
35. (New): The apparatus of claim 1, wherein the channel is less than 4 times the diameter of the object.